

ATTACHMENT J.22

PROTECTION OF TREES AND PLANT MATERIAL

1. General. The Statement of Work, at Section C alone does not identify the individual or groups of plants that are to be protected. For any construction contemplated as part of the Privatization of the Electric Distribution System at the U.S Military Academy, West Point, NY, a site plan, with the location of those plants to be retained and protected, must accompany the proposed specification. Development of this site plan requires an inspection by a professional having the ability to identify trees and plant materials that warrant protection. Preventing tree and tree root damage requires an understanding of general tree and root biology. Most often these skills are obtained via an Arborist or a Horticulturist. .

2. Preconstruction Protection.

2.1 Tops, Trunk, and Root Systems. The Contractor shall preserve and protect the tops, trunk and root systems of those trees and plant materials indicated on the plan number

2.2 Use of Certified Arborist. The Contractor shall engage the services of a Certified Arborist, as certified by the International Society of Arboriculture (ISA). The Certified Arborist shall review the tree protection plans and determine what specific protective measures are necessary to comply with this specification.

2.3 Pre-Construction Pruning. The arborist shall direct or perform the cutting, and trimming of branches of all trees and plant material. The cutting or trimming of lower branches, for clear access to the work site, shall be accomplished prior to the start of construction.

2.4 Pre-Construction Tying. The arborist shall direct or perform the "tying-in" of branches of all trees plant material that temporarily obstruct a construction area or access to a construction site. Lower branches that could be injured by equipment shall be "tied-in" using ropes or props with protective padding.

2.5 Pre-Construction Barricade Fencing. Following preliminary tying-in of overhanging branches, the Contractor shall construct and install highly visible barriers around existing trees as designated on plan number. Barriers shall be 4 foot high, orange polyethylene barricade fence supported on steel or wood posts with attachments to these posts on 6 foot centers. Barriers shall be placed a minimum of (10) ten feet outside of the protected trees' outermost branches (dripline). Attached to each barrier shall be (1) one (24" x 4") weatherproof sign in black on yellow stating: **ROOT PROTECTION ZONE - KEEP OUT.** (See detail A).

2.6 Protection Zone. The protection zone for other protected plant material such as shrubs, shall be the soil area underneath the plants' canopy. Where indicated in the plans

or specifications the Contractor shall place a (4) four to (6) six inch layer of wood chip mulch on the soil surface to protect roots of plants in close proximity to the work site.

2.7 Slopes. On the lower sides of slopes where rocks are likely to roll against and injure tree trunks or bark of protected trees, Contractor shall install boards or poles lashed with rope or wire in an upright position against the trunk. (See detail B).

2.8 Protection Devices. The Contractor shall maintain tree and plant material protection devices installed as part of this contract until all work on site has been completed.

3. Damage and Damage Prevention.

3.1 Tree Damage. The Contractor shall be responsible for prompt corrective action if despite precautions a tree trunk or branch is damaged. Removal of loose bark and cutting of the bark edge to a streamlined shape around the wound area shall be accomplished prior to close of business on the day the injury occurred. (See detail C)

3.2 Tree Wound Coatings. Tree wound" coatings are not to be applied and only with rare exception without the approval of the Contracting Officer.

3.3 Repair of Injuries. The Contractor shall repair injuries, at his own expense, to trees or plant material, bark, limbs and roots damaged by the construction project. All repairs shall be performed by or under the direction of a Certified Arborist. The use of climbing spurs or spikes on protected trees is not permitted.

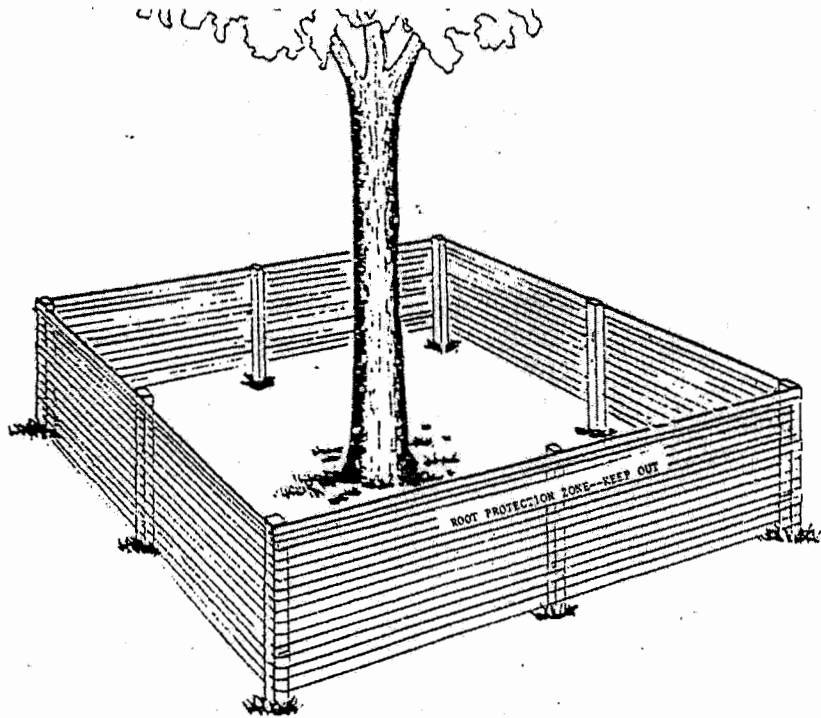
3.4 Root Protection. Equipment shall not be parked or stored within a root protection zone. Material stockpiles shall not be located within a root protection zone.

3.5 Root Damage. Mutilated cuts made to roots during excavation shall be re-cut with the appropriate horticultural tool(s). (See detail D)

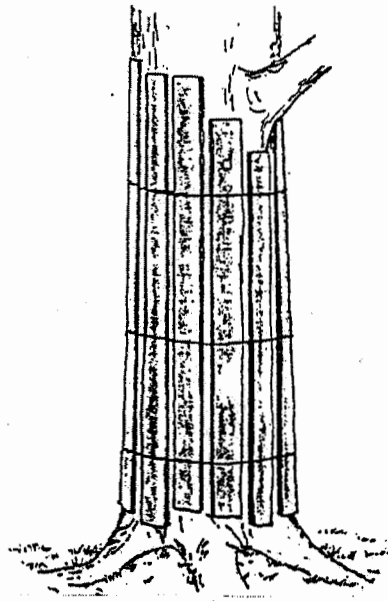
3.6 Replacement of Damaged Trees or Plants. Trees or other plant material damaged by the Contractor shall be replaced at Contractor expense. The Contractor shall not remove damaged trees or plant material without prior approval of the Contracting Officer. Replacement trees or plants shall be of like species, variety and size. Replacements shall be guaranteed for a period of one year from date of planting.

3.6 Monetary Compensation. Where replacement is not feasible, the Contracting Officer will secure monetary compensation from the Contractor. The Contracting Officer will determine the replacement compensation costs based on the most current edition of the Council of Tree and Landscape Appraisers (CTLA) "Guide for Plant Appraisal".

4. Traffic in Construction Area. All traffic shall be controlled away from all protected trees and other plant material. Protective devices, signs or other objects shall not be fastened directly to trees or plant material. Trees shall not be used as temporary utility poles or for anchorage. The Contractor shall not permit parking, movement or storage of any vehicle or equipment near trees that are to be protected or are adjacent to the job site. Should violations occur the Contractor shall be required, at his own expense, to install additional barrier fencing to eliminate further encroachment.



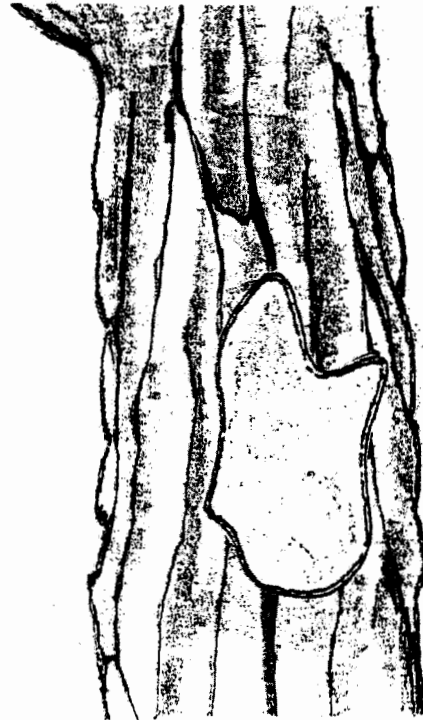
DETAIL A Pre-Construction Barricade Fencing
four (4) foot high, orange polyethylene barricade fence supported on posts
with attachments to these posts on six (6) foot centers.



DETAIL B Boards or poles lashed with rope or wire in an upright position against the
tree trunk.

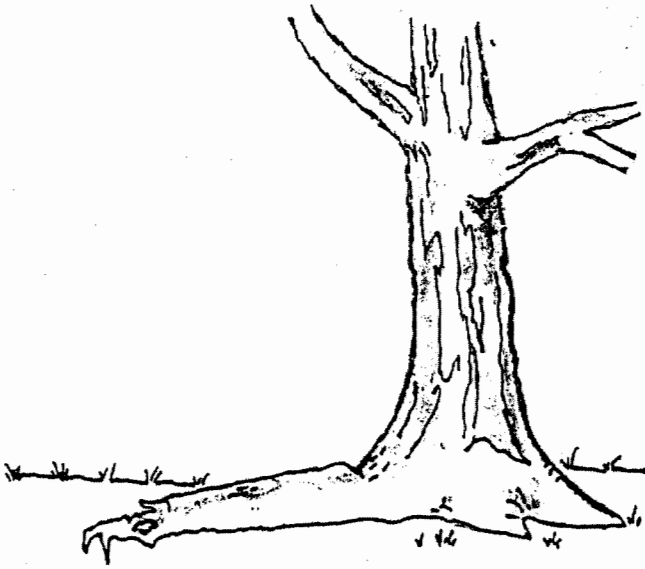


DETAIL C Damaged tree trunk with loose bark.

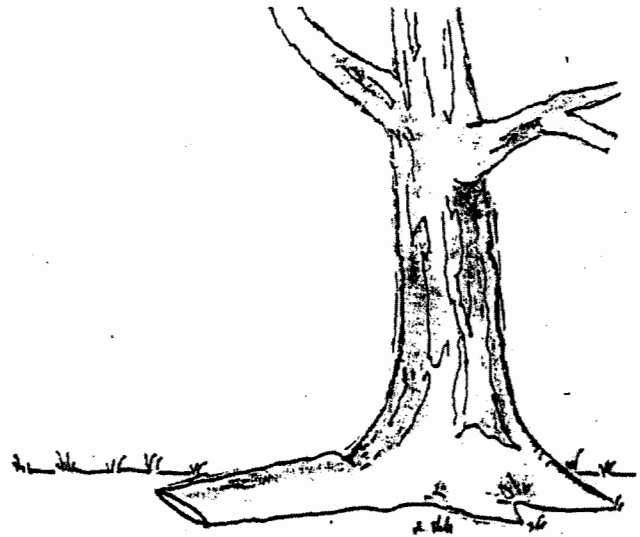


Corrective Action

Streamlined wound edges with loose bark removed.



DETAIL D Mutilated root resulting from mechanical excavation.



Corrective Action Oblique cut facing away from soil surface.